

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV (NEW) EXAMINATION – SUMMER 2024

Subject Code:3140609

Date:20-07-2024

Subject Name: Civil Engineering - Societal & Global Impact

Time:10:30 AM TO 01:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

MARKS

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|------------|-----|--|-----------|
| Q.1 | (a) | Write short note on green revolution of India | 03 |
| | (b) | Discuss four key technological advancements that have revolutionized the construction industry in the past century. | 04 |
| | (c) | Enumerate the necessity, benefits, and challenges of implementing automation in the construction sector. | 07 |
| Q.2 | (a) | Identify three challenges posed by rapid urbanization on civil engineering projects | 03 |
| | (b) | What is GIS? Explain in Detail. | 04 |
| | (c) | Discuss five advantages of implementing green building practices in the construction industry for the environment and society. | 07 |
| | | OR | |
| | (c) | What is global warming what are its causes and effects | 07 |
| Q.3 | (a) | Describe features of smart cities | 03 |
| | (b) | Describe impact of smart cities on Indian infrastructure. | 04 |
| | (c) | What technological advancements have enhanced underground tunnel construction? | 07 |
| | | OR | |
| Q.3 | (a) | Write short note on Solar energy | 03 |
| | (b) | Enlist futuristic energy sources and describe Hydropower. | 04 |
| | (c) | List methods for controlling air pollution and elaborate on one method of your choice. | 07 |
| Q.4 | (a) | Differentiate between climate and weather. | 03 |
| | (b) | What is an Environmental Impact Assessment (EIA), and why is it important in the development process | 04 |
| | (c) | Detail the disposal approach for organic-dominated solid waste, highlighting its strengths and weaknesses | 07 |
| | | OR | |
| Q.4 | (a) | Define primary and secondary air pollution with example | 03 |
| | (b) | What is LEED and how does it impact sustainable building practices? | 04 |
| | (c) | Explain the disposal method of solid waste when majority of waste is organic in nature write its advantage and disadvantage | 07 |
| Q.5 | (a) | Identify benefits of lean concrete in construction projects. | 03 |
| | (b) | List two remarkable civil engineering marvels in India and discuss their distinctive construction features. | 04 |
| | (c) | Discuss contribution of civil engineering to GDP in India. | 07 |
| | | OR | |
| Q.5 | (a) | Write short note on sustainability in project management | 03 |
| | (b) | Explain factors affecting labor productivity in building construction.. | 04 |
| | (c) | Explain methods for reduction of greenhouse gases in civil engineering projects | 07 |
